UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SCIENCE CENTER
701 MAPES ROAD
FORT MEADE, MD 20755-5350

ORIGINAL (Red)

SEMS DocID 2334407

DATE : December 28, 2000

SUBJECT: Region III Data QA Review

FROM : Fredrick Foreman II
Region III ESAT RPO (3ES20)

TO : Christine Wagner
Regional Project Manager (3HS31)

Attached is the organic data validation report for the Abemarle Dump #2 site (Case #: 28712, SDG#: C03S1) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III ESD.

The format of this validation report has changed. It will no longer include copies of the CLP forms. This change was driven in part by a need to reduce the amount of paper utilized. I will continue to retain copies of the CLP forms and they will be available upon request.

If you have any questions regarding this review, please call me at (410) 305-2629.

Attachments

cc: [non responsive based on revised scope] RAI)

WA File: 0300402 TDF#: 1240

OFFICE OF ANALYTICAL SERVICES AND QUALITY ASSURANCE

ORIGINAL (Red)

Lockheed Martin Environmental Services
US EPA Environmental Science Center
701 Mapes Road Ft. Meade, MD 20755-5350
Telephone 410-305-3037 Facsimile 410-305-3597

LOCKHEED MARTIN

DATE: December 26, 2000

SUBJECT: Level M2 Organic Data Validation for Case 28712
SDG: C03S1
Site: Albemarle Dump #2

FROM: [redacted] Senior Data Reviewer
[redacted] Senior Oversight Chemist

TO: Fredrick Foreman
ESAT Regional Project Officer

OVERVIEW

Case 28712, Sample Delivery Group (SDG) C03S1, consisted of seven (7) aqueous samples submitted to Laucks Testing Laboratories (LAUCKS) for volatile, semivolatile and/or pesticide/PCB analyses. Sample set included one (1) trip blank which was analyzed for volatiles only. Samples were analyzed according to Contract Laboratory Program (CLP) Statement of Work (SOW) OLM04.2 through the Routine Analysis Services (RAS) program.

SUMMARY

Data were validated according to Region III Modifications to the National Functional Guidelines for Organic Data Review, Level M3. All samples were successfully analyzed for all target compounds.

MINOR PROBLEM

- Several volatile and semivolatile target compounds failed precision criteria [Percent Relative Standard Deviation (%RSD) and/or Percent Difference (%D)] in initial or continuing calibrations. No positive result was associated with these compounds. Quantitation limits for dichlorofluoromethane which had a continuing calibration percent difference greater than fifty percent (% D>50%) were qualified "UJ" in affected samples.

NOTES

- The maximum concentrations of all target compounds found in the analyses of trip, storage and method blanks are listed below. No sample reported positive results for blank contaminants; therefore, no data were qualified based on blank contamination. Concentrations are in units of ug/L.

Compound	Concentration
methylene chloride*	1 J
chloroform	33
bromodichloromethane	10
dibromochloromethane	3 J
bromoform	3 J
1,2,4-trichlorobenzene	2 J

* common laboratory contaminant

- Pesticide/PCB initial calibrations performed 11/03/2000 indicated %RSDs for alpha-BHC and gamma-BHC outside QC limits on DB5 column and %RSDs for alpha-BHC and 4,4'-DDD outside QC limits on DB608 column. No positive results were associated with any of these calibration outliers; therefore, no data were qualified.

- Compounds detected below Contract Required Quantitation Limits (CRQLs) were qualified "J" on Data Summary Forms (DSFs).

- Tentatively Identified Compounds (TICs) were reviewed during data validation. No reported TICs were identified as blank contaminants or laboratory artifacts.

- A single non-spiked compound, other than blank contaminants, was detected in sample, matrix spike (MS), and matrix spike duplicate (MSD) analyses. Results and precision estimate for acetone are tabled below. Units are ug/L.

	C03S1	C03S1MS	C03S1MSD	RPD
acetone	7 J	ND	4 J	55

RPD = relative percent difference
ND = not detected

- Matrix Spike/Matrix Spike Duplicate analyses for semivolatile and pesticide/PCB fractions were not performed by the Laboratory. Laboratory narrative indicates directions relative to which sample to use for Quality Control analyses were not received from CLASS prior to expiration of samples' holding time.

All data for Case 28712, SDG C03S1, were reviewed in accordance with Region III Modifications to the National Functional Guidelines for Organic Data Review, September 1994.

ATTACHMENTS

1) Appendix A Glossary of Data Qualifier Terms
2) Appendix B Data Summary Forms
3) Appendix C Tentatively Identified Compounds
4) Appendix D Chain of Custody Records
5) Appendix E Laboratory Case Narratives

DCN: 28712_C03S1rpt

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Appendix A

Glossary of Data Qualifiers

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GLOSSARY OF DATA QUALIFIER CODES (ORGANIC)

CODES RELATED TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

NO CODE = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unusable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

Q = No analytical result.

Appendix B

Data Summary Forms

DATA SUMMARY FORM: VOLATILES

 ORIGINAL (Red)

Case #: 28712 SDG : C03S1 Number of Soil Samples : 0
Site : ALBEMARLE DUMP #2 Number of Water Samples : 7
Lab. : LAUCKS

Sample Number :	C03S1		C03S2		C03S3		C03S4		C03S5	
Sampling Location :	STREAM01		STREAM02		STREAM03		680BROAD		HIDBROAD	
Field QC:										
Matrix :	Water		Water		Water		Water		Water	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :	11/6/00		11/6/00		11/6/00		11/6/00		11/6/00	
Time Sampled :	12:00		13:45		14:00		16:30		17:00	
%Moisture :	N/A		N/A		N/A		N/A		N/A	
pH :	<2		<2		<2		<2		<2	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	10				UJ		UJ		UJ		UJ
Chloromethane	10										
*Vinyl Chloride	10										
Bromomethane	10										
Chloroethane	10										
Trichlorofluoromethane	10										
*1,1-Dichloroethene	10										
1,1,2-Trichloro-1,2,2-trifluoroethane	10										
Acetone	10	7	J								
Carbon Disulfide	10										
Methyl Acetate	10										
*Methylene Chloride	10										
trans-1,2-Dichloroethene	10										
Methyl tert-Butyl Ether	10										
1,1-Dichloroethane	10										
cis-1,2-Dichloroethene	10										
*2-Butanone	10										
Chloroform	10										
*1,1,1-Trichloroethane	10										
Cyclohexane	10										
*Carbon Tetrachloride	10										
*Benzene	10										
*1,2-Dichloroethane	10										
Trichloroethene	10										
Methylcyclohexane	10										
*1,2-Dichloropropane	10										
Bromodichloromethane	10										
cis-1,3-Dichloropropene	10										
4-Methyl-2-pentanone	10										
*Toluene	10										
trans-1,3-Dichloropropene	10										
1,1,2-Trichloroethane	10										
*Tetrachloroethene	10										

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits multiply the CRQL by the Dilution Factor Revised 09/99

DATA SUMMARY FORM: VOLATILES

ORIGINAL (Red)

Case #: 28712 SDG : C03S1 Number of Soil Samples : 0
Site : ALBEMARLE DUMP #2 Number of Water Samples : 7
Lab. : LAUCKS

Sample Number :		C03S1		C03S2		C03S3		C03S4		C03S5	
Sampling Location :		STREAM01		STREAM02		STREAM03		680BROAD		HIDBROAD	
Field QC:											
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		11/6/00		11/6/00		11/6/00		11/6/00		11/6/00	
Time Sampled :		12:00		13:45		14:00		16:30		17:00	
%Moisture :		N/A		N/A		N/A		N/A		N/A	
pH :		<2		<2		<2		<2		<2	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Hexanone	10										
Dibromochloromethane	10										
1,2-Dibromoethane	10										
*Chlorobenzene	10										
*Ethylbenzene	10										
Xylenes (total)	10										
*Styrene	10										
Bromoform	10										
Isopropylbenzene	10										
1,1,2,2-Tetrachloroethane	10										
*1,3-Dichlorobenzene	10										
*1,4-Dichlorobenzene	10										
1,2-Dichlorobenzene	10										
1,2-Dibromo-3-chloropropane	10										
1,2,4-Trichlorobenzene	10										

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits multiply the CRQL by the Dilution Factor Revised 09/99

ORIGINAL (Red)

DATA SUMMARY FORM: VOLATILES

Case #: 28712 SDG : C03S1 Number of Soil Samples : 0
Site : ALBEMARLE DUMP #2 Number of Water Samples : 7
Lab. : LAUCKS

Sample Number :		C03S6		C03S7							
Sampling Location :		701BROAD		TRIPBLK							
Field QC:				Trip Blank							
Matrix :		Water		Water							
Units :		ug/L		ug/L							
Date Sampled :		11/6/00		11/6/00							
Time Sampled :		17:30		17:30							
%Moisture :		N/A		N/A							
pH :		<2		<2							
Dilution Factor :		1.0		1.0							
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	10		UJ		UJ						
Chloromethane	10										
*Vinyl Chloride	10										
Bromomethane	10										
Chloroethane	10										
Trichlorofluoromethane	10										
*1,1-Dichloroethene	10										
1,1,2-Trichloro-1,2,2-trifluoroethane	10										
Acetone	10										
Carbon Disulfide	10										
Methyl Acetate	10										
*Methylene Chloride	10										
trans-1,2-Dichloroethene	10										
Methyl tert-Butyl Ether	10										
1,1-Dichloroethane	10										
cis-1,2-Dichloroethene	10										
*2-Butanone	10										
Chloroform	10			33							
*1,1,1-Trichloroethane	10										
Cyclohexane	10										
*Carbon Tetrachloride	10										
*Benzene	10										
*1,2-Dichloroethane	10										
Trichloroethene	10										
Methylcyclohexane	10										
*1,2-Dichloropropane	10										
Bromodichloromethane	10			10							
cis-1,3-Dichloropropene	10										
4-Methyl-2-pentanone	10										
*Toluene	10										
trans-1,3-Dichloropropene	10										
1,1,2-Trichloroethane	10										
*Tetrachloroethene	10										

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits multiply the CRQL by the Dilution Factor Revised 09/99

ORIGINAL (Red)

Case #: 28712
Site :
Lab. :

SDG : C03S1
ALBEMARLE DUMP #2
LAUCKS

Number of Soil Samples : 0
Number of Water Samples : 7

Sample Number :		C03S6		C03S7							
Sampling Location :		701BROAD		TRIPBLK							
Field QC:				Trip Blank							
Matrix :		Water		Water							
Units :		ug/L		ug/L							
Date Sampled :		11/6/00		11/6/00							
Time Sampled :		17:30		17:30							
%Moisture :		N/A		N/A							
pH :		<2		<2							
Dilution Factor :		1.0		1.0							
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Hexanone	10										
Dibromochloromethane	10			3	J						
1,2-Dibromoethane	10										
*Chlorobenzene	10										
*Ethylbenzene	10										
Xylenes (total)	10										
*Styrene	10										
Bromoform	10			3	J						
Isopropylbenzene	10										
1,1,2,2-Tetrachloroethane	10										
*1,3-Dichlorobenzene	10										
*1,4-Dichlorobenzene	10										
1,2-Dichlorobenzene	10										
1,2-Dibromo-3-chloropropane	10										
1,2,4-Trichlorobenzene	10										

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits multiply the CRQL by the Dilution Factor

ORIGINAL (Red)

Case #: 28712 SDG : C03S1 Number of Soil Samples : 0

Site : ALBEMARLE DUMP #2 Number of Water Samples : 6

Lab. : LAUCKS

Sample Number :		C03S1		C03S2		C03S3		C03S4		C03S5	
Sampling Location :		STREAM01		STREAM02		STREAM03		680BROAD		HIDBROAD	
Field QC:											
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		11/6/00		11/6/00		11/6/00		11/6/00		11/6/00	
Time Sampled :		12:00		13:45		14:00		16:30		17:00	
%Moisture :		N/A		N/A		N/A		N/A		N/A	
pH :											
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	10										
Phenol	10										
bis-(2-Chloroethyl) ether	10										
2-Chlorophenol	10										
2-Methylphenol	10										
2,2'-oxybis(1-Chloropropane)	10										
Acetophenone	10										
4-Methylphenol	10										
N-Nitroso-di-n-propylamine	10										
Hexachloroethane	10										
Nitrobenzene	10										
Isophorone	10										
2-Nitrophenol	10										
2,4-Dimethylphenol	10										
bis(2-Chloroethoxy)methane	10										
2,4-Dichlorophenol	10										
Naphthalene	10										
4-Chloroaniline	10										
Hexachlorobutadiene	10										
Caprolactam	10										
4-Chloro-3-methylphenol	10										
2-Methylnaphthalene	10										
Hexachlorocyclopentadiene	10										
2,4,6-Trichlorophenol	10										
2,4,5-Trichlorophenol	25										
1,1'-Biphenyl	10										
2-Chloronaphthalene	10										
2-Nitroaniline	25										
Dimethylphthalate	10										
2,6-Dinitrotoluene	10										
Acenaphthylene	10										
3-Nitroaniline	25										

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits multiply the CRQL by the Dilution Factor

DATA SUMMARY FORM: BNA

ORIGINAL (Red)

Case #: 28712 SDG : C03S1 Number of Soil Samples : 0
Site : ALBEMARLE DUMP #2 Number of Water Samples : 6
Lab. : LAUCKS

Sample Number :		C03S1		C03S2		C03S3		C03S4		C03S5	
Sampling Location :		STREAM01		STREAM02		STREAM03		680BROAD		HIDBROAD	
Field QC:											
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		11/6/00		11/6/00		11/6/00		11/6/00		11/6/00	
Time Sampled :		12:00		13:45		14:00		16:30		17:00	
%Moisture :		N/A		N/A		N/A		N/A		N/A	
pH :											
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Acenaphthene	10										
2,4-Dinitrophenol	25										
4-Nitrophenol	25										
Dibenzofuran	10										
2,4-Dinitrotoluene	10										
Diethylphthalate	10										
Fluorene	10										
4-Chlorophenyl-phenyl ether	10										
4-Nitroaniline	25										
4,6-Dinitro-2-methylphenol	25										
N-Nitrosodiphenylamine	10										
4-Bromophenyl-phenylether	10										
*Hexachlorobenzene	10										
Atrazine	10										
*Pentachlorophenol	25										
Phenanthrene	10										
Anthracene	10										
Carbazole	10										
Di-n-butylphthalate	10										
Fluoranthene	10										
Pyrene	10										
Butylbenzylphthalate	10										
3,3'-Dichlorobenzidine	10										
Benzo(a)anthracene	10										
Chrysene	10										
bis(2-Ethylhexyl)phthalate	10					1	J				
Di-n-octylphthalate	10										
Benzo(b)fluoranthene	10										
Benzo(k)fluoranthene	10										
Benzo(a)pyrene	10										
Indeno(1,2,3-cd)pyrene	10										
Dibenzo(a,h)anthracene	10										
Benzo(g,h,i)perylene	10										

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits multiply the CRQL by the Dilution Factor Revised 09/99

ORIGINAL (Red)

Case #: 28712 SDG : C03S1 Number of Soil Samples : 0

Site : ALBEMARLE DUMP #2 Number of Water Samples : 6

Lab. : LAUCKS

Sample Number :		C03S6									
Sampling Location :		701BROAD									
Field QC:											
Matrix :		Water									
Units :		ug/L									
Date Sampled :		11/6/00									
Time Sampled :		17:30									
%Moisture :		N/A									
pH :											
Dilution Factor :		1.0									
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	10										
Phenol	10										
bis-(2-Chloroethyl) ether	10										
2-Chlorophenol	10										
2-Methylphenol	10										
2,2'-oxybis(1-Chloropropane)	10										
Acetophenone	10										
4-Methylphenol	10										
N-Nitroso-di-n-propylamine	10										
Hexachloroethane	10										
Nitrobenzene	10										
Isophorone	10										
2-Nitrophenol	10										
2,4-Dimethylphenol	10										
bis(2-Chloroethoxy)methane	10										
2,4-Dichlorophenol	10										
Naphthalene	10										
4-Chloroaniline	10										
Hexachlorobutadiene	10										
Caprolactam	10										
4-Chloro-3-methylphenol	10										
2-Methylnaphthalene	10										
Hexachlorocyclopentadiene	10										
2,4,6-Trichlorophenol	10										
2,4,5-Trichlorophenol	25										
1,1'-Biphenyl	10										
2-Chloronaphthalene	10										
2-Nitroaniline	25										
Dimethylphthalate	10										
2,6-Dinitrotoluene	10										
Acenaphthylene	10										
3-Nitroaniline	25										

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits multiply the CRQL by the Dilution Factor Revised 09/99

ORIGINAL (Red)

Case #: 28712 SDG : C03S1 Number of Soil Samples : 0

Site : ALBEMARLE DUMP #2 Number of Water Samples : 6

Lab. : LAUCKS

Sample Number :		C03S6									
Sampling Location :		701BROAD									
Field QC:											
Matrix :		Water									
Units :		ug/L									
Date Sampled :		11/6/00									
Time Sampled :		17:30									
%Moisture :		N/A									
pH :											
Dilution Factor :		1.0									
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Acenaphthene	10										
2,4-Dinitrophenol	25										
4-Nitrophenol	25										
Dibenzofuran	10										
2,4-Dinitrotoluene	10										
Diethylphthalate	10										
Fluorene	10										
4-Chlorophenyl-phenyl ether	10										
4-Nitroaniline	25										
4,6-Dinitro-2-methylphenol	25										
N-Nitrosodiphenylamine	10										
4-Bromophenyl-phenylether	10										
*Hexachlorobenzene	10										
Atrazine	10										
*Pentachlorophenol	25										
Phenanthrene	10										
Anthracene	10										
Carbazole	10										
Di-n-butylphthalate	10										
Fluoranthene	10										
Pyrene	10										
Butylbenzylphthalate	10										
3,3'-Dichlorobenzidine	10										
Benzo(a)anthracene	10										
Chrysene	10										
bis(2-Ethylhexyl)phthalate	10										
Di-n-octylphthalate	10										
Benzo(b)fluoranthene	10										
Benzo(k)fluoranthene	10										
Benzo(a)pyrene	10										
Indeno(1,2,3-cd)pyrene	10										
Dibenzo(a,h)anthracene	10										
Benzo(g,h,i)perylene	10										

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits multiply the CRQL by the Dilution Factor Revised 09/99

ORIGINAL (Red)

Case #: 28712 SDG : C03S1 Number of Soil Samples : 0
Site : ALBEMARLE DUMP #2 Number of Water Samples : 6
Lab. : LAUCKS

Sample Number :		C03S1		C03S2		C03S3		C03S4		C03S5	
Sampling Location :		STREAM01		STREAM02		STREAM03		680BROAD		HIDBROAD	
Field QC:											
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		11/6/00		11/6/00		11/6/00		11/6/00		11/6/00	
Time Sampled :		12:00		13:45		14:00		16:30		17:00	
%Moisture :		N/A		N/A		N/A		N/A		N/A	
pH :											
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	0.050										
beta-BHC	0.050										
delta-BHC	0.050										
*gamma-BHC (Lindane)	0.050										
*Heptachlor	0.050										
Aldrin	0.050										
Heptachlor epoxide	0.050										
Endosulfan I	0.050										
Dieldrin	0.10										
4,4'-DDE	0.10										
*Endrin	0.10										
Endosulfan II	0.10										
4,4'-DDD	0.10										
Endosulfan sulfate	0.10										
4,4'-DDT	0.10										
*Methoxychlor	0.50										
Endrin ketone	0.10										
Endrin aldehyde	0.10										
alpha-Chlordane	0.050										
gamma-Chlordane	0.050										
*Toxaphene	5.0										
*Aroclor-1016	1.0										
*Aroclor-1221	2.0										
*Aroclor-1232	1.0										
*Aroclor-1242	1.0										
*Aroclor-1248	1.0										
*Aroclor-1254	1.0										
*Aroclor-1260	1.0										

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits multiply the CRQL by the Dilution Factor Revised 09/99

DATA SUMMARY FORM: PESTICIDES AND PCBS

ORIGINAL (Red)

Case #: 28712
Site :
Lab. :

SDG : C03S1
ALBEMARLE DUMP #2
LAUCKS

Number of Soil Samples : 0
Number of Water Samples : 6

Sample Number :		C03S6									
Sampling Location :		701BROAD									
Field QC:											
Matrix :		Water									
Units :		ug/L									
Date Sampled :		11/6/00									
Time Sampled :		17:30									
%Moisture :		N/A									
pH :											
Dilution Factor :		1.0									
Pesticide/PCB Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	0.050										
beta-BHC	0.050										
delta-BHC	0.050										
*gamma-BHC (Lindane)	0.050										
*Heptachlor	0.050										
Aldrin	0.050										
Heptachlor epoxide	0.050										
Endosulfan I	0.050										
Dieldrin	0.10										
4,4'-DDE	0.10										
*Endrin	0.10										
Endosulfan II	0.10										
4,4'-DDD	0.10										
Endosulfan sulfate	0.10										
4,4'-DDT	0.10										
*Methoxychlor	0.50										
Endrin ketone	0.10										
Endrin aldehyde	0.10										
alpha-Chlordane	0.050										
gamma-Chlordane	0.050										
*Toxaphene	5.0										
*Aroclor-1016	1.0										
*Aroclor-1221	2.0										
*Aroclor-1232	1.0										
*Aroclor-1242	1.0										
*Aroclor-1248	1.0										
*Aroclor-1254	1.0										
*Aroclor-1260	1.0										

CRQL = Contract Required Quantitation Limit
*Action Level Exists
SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits multiply the CRQL by the Dilution Factor

Appendix C

Tentatively Identified Compounds

EPA SAMPLE NO.

C03S1

ORIGINAL (Red)

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: LAUCKS TESTING LABORATORIES Contract: 68-W-00-075

Lab Code: LAUCKS Case No.: 28712 SAS No.: SDG No.: C03S1

Matrix: (soil/water) WATER Lab Sample ID: 0011170-01

Sample wt/vol: 5 (g/mL) ML Lab File ID: S1109008.D

Level: (low/med) LOW Date Received: 11/08/00

% Moisture: not dec. Date Analyzed: 11/09/00

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (µL) Soil Aliquot Volume: (µL)

Number TICs found: 0 CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

EPA SAMPLE NO.

C03S2 (ORIGINAL (Red))

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: LAUCKS TESTING LABORATORIES Contract: 68-W-00-075

Lab Code: LAUCKS Case No.: 28712 SAS No.: SDG No.: C03S1

Matrix: (soil/water) WATER Lab Sample ID: 0011170-02

Sample wt/vol: 5 (g/mL) ML Lab File ID: U1116015.D

Level: (low/med) LOW Date Received: 11/08/00

% Moisture: not dec. Date Analyzed: 11/16/00

GC Column: DB-624 ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (µL) Soil Aliquot Volume: (µL)

Number TICs found: 0 CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1F

EPA SAMPLE NO.

ORIGINAL (Red)

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

C03S3

Lab Name: LAUCKS TESTING LABORATORIES Contract: 68-W-00-075

Lab Code: LAUCKS Case No.: 28712 SAS No.: SDG No.: C03S1

Matrix: (soil/water) WATER Lab Sample ID: 0011170-03

Sample wt/vol: 5 (g/mL) ML Lab File ID: U1116016.D

Level: (low/med) LOW Date Received: 11/08/00

% Moisture: not dec. Date Analyzed: 11/16/00

GC Column: DB-624 ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (µL) Soil Aliquot Volume: (µL)

Number TICs found: 0 CONCENTRATION UNITS:
(µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

EPA SAMPLE NO.

C03S4

ORIGINAL (Red)

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: LAUCKS TESTING LABORATORIES Contract: 68-W-00-075

Lab Code: LAUCKS Case No.: 28712 SAS No.: SDG No.: C03S1

Matrix: (soil/water) WATER Lab Sample ID: 0011170-04

Sample wt/vol: 5 (g/mL) ML Lab File ID: U1116017.D

Level: (low/med) LOW Date Received: 11/08/00

% Moisture: not dec. Date Analyzed: 11/16/00

GC Column: DB-624 ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (µL) Soil Aliquot Volume: (µL)

Number TICs found: 0 CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

1F

EPA SAMPLE NO. ORIGINAL IReq

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

C03S5

Lab Name: LAUCKS TESTING LABORATORIES Contract: 68-W-00-075

Lab Code: LAUCKS Case No.: 28712 SAS No.: SDG No.: C03S1

Matrix: (soil/water) WATER Lab Sample ID: 0011170-05

Sample wt/vol: 5 (g/mL) ML Lab File ID: U1116018.D

Level: (low/med) LOW Date Received: 11/08/00

% Moisture: not dec. Date Analyzed: 11/16/00

GC Column: DB-624 ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (µL) Soil Aliquot Volume: (µL)

Number TICs found: 0 CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

EPA SAMPLE NO. ORIGINAL (Red)

C03S6

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: LAUCKS TESTING LABORATORIES Contract: 68-W-00-075

Lab Code: LAUCKS Case No.: 28712 SAS No.: SDG No.: C03S1

Matrix: (soil/water) WATER Lab Sample ID: 0011170-06

Sample wt/vol: 5 (g/mL) ML Lab File ID: U1116019.D

Level: (low/med) LOW Date Received: 11/08/00

% Moisture: not dec. Date Analyzed: 11/16/00

GC Column: DB-624 ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (µL) Soil Aliquot Volume: (µL)

Number TICs found: 0 CONCENTRATION UNITS: (µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

1F

EPA SAMPLE NO.

ORIGINAL (Red)

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

C03S7

TRIP BLANK

Lab Name: LAUCKS TESTING LABORATORIES Contract: 68-W-00-075

Lab Code: LAUCKS Case No.: 28712 SAS No.: SDG No.: C03S1

Matrix: (soil/water) WATER Lab Sample ID: 0011170-07

Sample wt/vol: 5 (g/mL) ML Lab File ID: U1116020.D

Level: (low/med) LOW Date Received: 11/08/00

% Moisture: not dec. Date Analyzed: 11/16/00

GC Column: DB-624 ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (µL) Soil Aliquot Volume: (µL)

Number TICs found: 1 CONCENTRATION UNITS:
(µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q
1.	unknown	9.19	5	J

1G

EPA SAMPLE NO.

C03S1

ORIGINAL (Red)

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: LAUCKS TESTING LABORATORIES Contract: 68-W-00-075

Lab Code: LAUCKS Case No.: 28712 SAS No.: SDG No.: C03S1

Matrix: (soil/water) WATER Lab Sample ID: 0011170-01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1114012.D

Level: (low/med) LOW Date Received: 11/08/00

% Moisture: Decanted: (Y/N) Date Extracted: 11/13/00

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 11/14/00

Injection Volume: 2 (µL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: (Type) CONT

Number TICs found: 0 CONCENTRATION UNITS:
(µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

1G

EPA SAMPLE NO.

C03S2

ORIGINAL (Red)

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: LAUCKS TESTING LABORATORIES Contract: 68-W-00-075

Lab Code: LAUCKS Case No.: 28712 SAS No.: SDG No.: C03S1

Matrix: (soil/water) WATER Lab Sample ID: 0011170-02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1114013.D

Level: (low/med) LOW Date Received: 11/08/00

% Moisture: Decanted: (Y/N) Date Extracted: 11/13/00

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 11/14/00

Injection Volume: 2 (µL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: (Type) CONT

Number TICs found: 0 CONCENTRATION UNITS:
(µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

EPA SAMPLE NO.

C03S3

ORIGINAL (Red)

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: LAUCKS TESTING LABORATORIES Contract: 68-W-00-075

Lab Code: LAUCKS Case No.: 28712 SAS No.: SDG No.: C03S1

Matrix: (soil/water) WATER Lab Sample ID: 0011170-03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1114014.D

Level: (low/med) LOW Date Received: 11/08/00

% Moisture: Decanted: (Y/N) Date Extracted: 11/13/00

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 11/14/00

Injection Volume: 2 (µL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: (Type) CONT

Number TICs found: 1 CONCENTRATION UNITS:
(µg/L or µg/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1460-57-7	1,2-Cyclohexanediol, trans-	7.39	3	JN

1G

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. ORIGINAL (Red)
C03S4

Lab Name: LAUCKS TESTING LABORATORIES Contract: 68-W-00-075

Lab Code: LAUCKS Case No.: 28712 SAS No.: SDG No.: C03S1

Matrix: (soil/water) WATER Lab Sample ID: 0011170-04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1114015.D

Level: (low/med) LOW Date Received: 11/08/00

% Moisture: Decanted: (Y/N) Date Extracted: 11/13/00

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 11/14/00

Injection Volume: 2 (µL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: (Type) CONT

Number TICs found: 0 CONCENTRATION UNITS:
(µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

EPA SAMPLE NO. C03S5

ORIGINAL (Red)

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: LAUCKS TESTING LABORATORIES Contract: 68-W-00-075

Lab Code: LAUCKS Case No.: 28712 SAS No.: SDG No.: C03S1

Matrix: (soil/water) WATER Lab Sample ID: 0011170-05

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1114016.D

Level: (low/med) LOW Date Received: 11/08/00

% Moisture: Decanted: (Y/N) Date Extracted: 11/13/00

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 11/14/00

Injection Volume: 2 (µL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: (Type) CONT

Number TICs found: 0 CONCENTRATION UNITS:
(µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q

ORIGINAL (Red)

EPA SAMPLE NO.

C03S6

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: LAUCKS TESTING LABORATORIES Contract: 68-W-00-075

Lab Code: LAUCKS Case No.: 28712 SAS No.: SDG No.: C03S1

Matrix: (soil/water) WATER Lab Sample ID: 0011170-06

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1114017.D

Level: (low/med) LOW Date Received: 11/08/00

% Moisture: Decanted: (Y/N) Date Extracted: 11/13/00

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 11/14/00

Injection Volume: 2 (µL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: (Type) CONT

Number TICs found: 0 CONCENTRATION UNITS:
(µg/L or µg/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

ORIGINAL
(Red)

Appendix D

Chain of Custody Records

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

EPA United States Environmental Protection Agency Contract Laboratory Program

SDG No. C0351 | Case No. 28712

3. Region No. 3 | Sampling Co. RAI | 5. Date Shipped 11/7/00 | Carrier Fedex | 7. Date Received--Received by: 11/8/00 MF

Sampler (Name) "non responsive based on revised scope" | Airbill Number 7246 7177 4131 | Laboratory Contract No. 68-W-00085 | Unit Price $600.00

Sampler Signature "non responsive based on revised scope" | 6. Ship To: ~~Chemtech Consulting Group~~ LAURS Testing ~~Raritan Center~~ 940 Steinway ~~Seattle, WA 05 Campus Plaza One~~ 98108 ~~Edison, NJ 08837~~ ATTN: | 8. Transfer to: | Date Received

4. Purpose: Lead [ ] SF [ ] PRP [ ] ST [ ] FED [ ] BZ; Early Action [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action [ ] RIFS [ ] RD [ ] RA [ ] O&M

Received by: | Contract Number | Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E TA (circle one) PR* 7 14 21 BNA	E TA (circle one) PR* 7 14 21 Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
1 C0351	1	low	Grab	1	[redacted]	[redacted]	[redacted]	3036316,17,20,21,22,24-25	Stream 01	11/6/00 1200	MC02Z0	CC	
2 C0352	1	low	Grab	1	[redacted]	[redacted]	[redacted]	3036324,27-29	Stream 02	11/6/00 1345	MC02Z1	CC	
3 C0353	1	low	Grab	1	[redacted]	[redacted]	[redacted]	3036330,33-35	Stream 03	11/6/00 1400	MC02Z2	CC	
4 C0354	2	low	Grab	1	[redacted]	[redacted]	[redacted]	3036341-43	680 Road	11/6/00 1630	MC02Z3	CC	
5 C0355	2	low	Grab	1	[redacted]	[redacted]	[redacted]	3036346-46	Hill Road	11/6/00 1700	MC02Z4	CC	
6 C0356	2	low	Grab	1	[redacted]	[redacted]	[redacted]	3036296-98	701 Road	11/6/00 1730	MC02Z5	CC	
7 C0357	4	low	Grab	1	[redacted]			3036290-92	Trip Blk	11/6/00 1200			
					Rec'd 12/4/00 LDP			C0351					

Shipment for Case Complete? (Y/N) Y

Page 2 of 3

VOA MS/MSD Required? Y/N Sample #:

BNA MS/MSD Required? Y/N Sample #:

Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures

Chain of Custody Seal Number(s)

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time 11/8/00 0648	Remarks: Is custody seal intact? Y/N/none	

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

EPA Form 9110-2 (2/99)

See Reverse for Additional Standard Instructions

**See Reverse for Purpose Code Definitions

ORIGINAL

397976

EPA Organic Traffic Report & Chain of Custody Record

United States Environmental Protection Agency
Contract Laboratory Program

(For Organic CLP Analysis)

001170

SDG No. C0351 / C1351

Case No. 28712

3. Region No. 2 | Sampling Co. RAT

Sampler (Name) non responsive based on revised scope

Sampler Signature non responsive based on revised scope

4. Purpose — Lead: SF, PRP, ST, FED, BZ; Early Action: IA, PA, REM, RI, SI, ESI; Long-Term Action: RIFS, RD, RA, O&M

5. Date Shipped 11/2/00 | Carrier Fedex | Airbill Number 8246 3177 4142

6. Ship To: ~~Chem Tech Consulting Group~~ ~~Raritan Center~~ ~~205 Coopers Plaza One~~ ~~Edison NJ 08837~~ LAUCKS Testing 940 S. Harney St ATTN: Seattle, Washington 98108

7. Date Received--Received by: ~~68-W-00-075~~ 11/4/00 M.H.

Laboratory Contract No. 68-W-00-075 | Unit Price $600.00

8. Transfer to: — | Date Received —

Received by: —

Contract Number — | Price —

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E RAS Analysis TA (circle one) PR* 7 14 21 BNA	E RAS Analysis TA (circle one) PR* 7 14 21 Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
2 C0352	1	low	Grab	5				3036325-6	Stream 02	11/1/00 1345	MC02 #1	CC	
3 C0353	1	low	Grab	5				3036331-2	Stream 03	11/1/00 1400	MC02 #2	CC	
6 C0356	2	low	Grab	5				3036294-5	701 Brood	11/1/00 1730	MC02 #5	CC	
								Trip Blank 12/1/00 ADP	C0351				

Shipment for Case Complete? (Y/N)

Page 2 of 3

VOA MS/MSD Required? Y/N Sample #:

BNA MS/MSD Required? Y/N Sample #:

Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures

Chain of Custody Seal Number(s)

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]					
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time 11/3/00 0845	Remarks: Is custody seal intact? Y/N/none	
		[signature]			

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

EPA Form 9110-2 (2/99)

See Reverse for Additional Standard Instructions

**See Reverse for Purpose Code Definitions

CLASS-99-002

397991

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

United States Environmental Protection Agency
Contract Laboratory Program

001117 C0351 C0351

SDG No. MH 11/8/00

Case No. 28712

[redacted]

3. Region No. 3 | Sampling Co. RAI

5. Date Shipped 11/7/00 | Carrier Fedex

7. Date Received--Received by: 11/8/00 MH

Sampler (Name) non responsive based on revised scope:

Airbill Number 8245 3177 1239

Laboratory Contract No. 68-W-00-075 | Unit Price $600.00

Sampler Signature non responsive based on revised scope:

6. Ship To: ~~Tetra Tech Consulting Group~~ Aur LAUCKS Testing Labs 940 S. Harney St. Seattle, Washington 98108

8. Transfer to: — | Date Received —

Received by: —

4. Purpose** Lead: SF, PRP, ST, FED, BZ | Early Action: IA, PA, REM, RI, SI, ESI | Long-Term Action: RIFS, RD, RA, O&M

ATTN:

Contract Number — | Price —

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E RAS Analysis TA (circle one) PR* 7 14 21 BNA	E RAS Analysis TA (circle one) PR* 7 14 21 Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Sample Condition
C0351	1	low	Grab	5		[redacted]		3036318, 19, 22	Stream 01	11/6/00 1200	MC02Z0	CL	
C0354	2	low	Grab	5		[redacted]	[redacted]	3036337, 38	680 Pond	11/6/00 1630	MC02Z3	CL	
C0355	2	low	Grab	5		[redacted]	[redacted]	3036344, 45	M, I Pond	11/6/00 1700	MC02Z4	CL	
							12/4/00	C0351					

Shipment for Case Complete? (Y/N) Y

Page 1 of 3

VOA MS/MSD Required? Y/N Sample #:
BNA MS/MSD Required? Y/N Sample #:
Pest/PCB MS/MSD Required? Y/N Sample #:

Additional Sampler Signatures

Chain of Custody Seal Number(s)

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[redacted]	11/7/00				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	
		[redacted]	11/8/00 0645		

Distribution: White - Lab Copy for Return to SMO; Yellow - Lab Copy for Return to Region; Pink - SMO Copy; Blue - Region Copy

EPA Form 9110-2 (2/99)

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

CLASS-99-002

ORIGINAL

397992

U.S. EPA Region III Sample Scheduling Request Form

RAS CASE No: CT693 28712	DAS No:	NSF No: ORIGINAL (Red)	
Date:	Data Validation Level: M2	EPA Lab Reply:	
Site Name: Albemarle Dump #2		Cost:	
Address: Broad Axe Road	City: Charlottesville	State: VA	
Latitude: Unk	Longitude: Unk	Anal +Val Data TAT:42 days	
Program: Superfund	CERCLIS No: Requested (new Site)	Activity: Removal	
Account No: Requested (new Site)	Operable Unit:	Spill ID:	
Preparer: Chris Wagner, OSC	RPM/PO:Chris Wagner, OSC	Site Leader: RAI- START Contractor	
Phone: 215-814-3261	Phone: 215-814-3261	Phone: 804-279-0222	
FAX: 215-814-3254	FAX: 215-814-3254	FAX: 804-279-0227	
E-mail: wagner.christine@epa.gov	E-mail:	E-mail: Not available	
EPA CO: Debbie Eble	Contract Type: START / Prime: RAI	Sub: N/A	
Lab Assignment Date:	Analytical TAT: 21 days	Ship Date From: 11/07	
Organic Lab:		Ship Date To: 11/07	
Inorganic Lab: MITKEM		Carrier: FedEx	

SAMPLES	METHOD	PARAMETER	MATRIX
8	OLM04.2	TCL Organics: VOAs, SVOA, Pesticides/PCBs	AQ
8	ILM04.1	TAL Metals	AQ

NOTE: Data validation levels M3 & IM2 require justification. QC field samples must be included as part of total number of samples.

1. Special Instructions:
2. Objectives / Project Plan ID / Permit ID:
3. Program / Project / Permit Reporting Limits
4. DQO (QC Requirements)

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Appendix E

Laboratory Case Narratives

LAUCKS TESTING LABORATORIES
940 S. Harney
Seattle, WA 98108

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SDG Narrative
To: United States Environmental Protection Agency
Laboratory Name: Laucks Testing Labs
Case No. : 28712
Laboratory No. : 0011170
SDG No. : C03S1
Contract No: 68-W-00-075
Date of Report: November 30, 2000

SAMPLE RECEIPT, IDENTIFICATION, AND GENERAL COMMENTS:

Sample Receipt and Identification:

The samples submitted under the laboratory number(s) indicated above were identified and analyzed as tabulated below. The samples were collected and received on the dates noted on the enclosed chain-of-custody copies, Attachment A.

Client Sample Identification	Laucks Sample Identification	Testing Analytical Request
C03S1	0011170-01	VOA/ABN/PEST
C03S2	0011170-02	VOA/ABN/PEST
C03S3	0011170-03	VOA/ABN/PEST
C03S4	0011170-04	VOA/ABN/PEST
C03S5	0011170-05	VOA/ABN/PEST
C03S6	0011170-06	VOA/ABN/PEST
C03S7	0011170-07	VOA

Analytical Request Key:

VOA =	Volatile Organics (OLM04.2)
ABN =	Semi-Volatile Organics (OLM04.2)
PEST =	Pesticides/PCBs (OLM04.2)

Sample Receipt Comments:

Sample C03S4 had 1 of 2-gallon jugs broken in transit. Sufficient sample volume was available for analyses. No QC sample was identified on the traffic report for QC. However, sample C03S1 had sufficient sample volume for QC. DynCorp was contacted and Laucks was directed to use C03S1 as the QC sample on 11/13/00. Holding times based on VSTR expired on 11/13/00, therefore the MS and MSD could not be performed for this SDG for the SVOA and Pesticide extractions within holding time. Laucks was requested to identify this in the narrative.

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GENERAL REMARKS ON ORGANIC ANALYSES:

The following comments describe general analysis conditions. For remarks specific to the samples reported in this case, see "SPECIFIC REMARKS ON ORGANIC ANALYSIS."

Manual Integrations:
One or more analytes may have been manually integrated on the data system quantitation reports. All manual integrations have been flagged, initialed and dated by the analyst. A list of the manual integration flags is detailed below.

M	Manual integration due to irregular peak shape
MS	Manual integration due to split peak
MR	Manual integration due to retention time shift
MI	Manual integration of correct isomer or peak
MT	Manual integration due to peak tailing
MB	Manual integration due to irregular baseline

All GC/MS Fractions:

The computerized printout for sample analysis may tabulate values for target analytes that are not reported on the relevant Form I. In that case, we have manually searched the mass spectral data and have eliminated the compound(s) as reportable based on this search.

Volatile Fraction:

The instrument was fitted with the following column and trap:

Manufacturer	Column Name	Length	ID, mm	Film thickness, µm	Packing material
J&W	DB-624	75 m	0.45	2.55	6% Cyanopropylphenyl 94% dimethylpolysiloxane

Trap	Trap Manufacturer	Packing
VOCARB 3000/K Trap	OI/Supelco	10 cm Carbopack B 6 cm Carboxen 1000 1 cm Carboxen 1001

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Semi-Volatile Fraction:

The GC was fitted with the following column:

Manufacturer	Column Name	Length	ID, mm	Film thickness, µm	Packing material
Restek	RTX-5Sil MS	30 m	0.25	0.25	cross bond 5% diphenyl/95% dimethylpolysiloxane

Pesticide/PCB Fraction:

The GC was fitted with the following columns:

Manufacturer	Column Name	Length	ID, mm	Film thickness, µm	Packing material
J&W	DB-5	30 m	0.45	1.27	5% Phenyl-methylpolysiloxane
J&W	DB-608	30 m	0.45	0.7	5% Phenyl-methylpolysiloxane

SPECIFIC REMARKS ON ORGANIC ANALYSES:

Holding Time Compliance:

Following the Contract Laboratory Program (CLP) model, Laucks calculates holding time compliance for organic determinations based on the first injection and/or analysis of an extract or sample. Subsequent analyses (for instance, for the purpose of dilution) are not tabulated.

Volatile Organic Compounds:

The holding time is 10 days calculated from Verified Time of Sample Receipt (VTSR). All samples were analyzed within holding time.

Semi-Volatile Organic Compounds:

The holding time to extraction is 5 days in water and 10 days in soil calculated from the VTSR. The holding time from extraction to analysis is 40 days. All samples were extracted and analyzed within holding time.

Pesticides/PCBs:

The holding time to extraction is 5 days in water and 10 days in soil calculated from the VTSR. The holding time from extraction to analysis is 40 days. All samples were extracted and analyzed within holding time.

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Volatile Fraction:

All samples in this SDG were extracted and analyzed in accordance with EPA CLP OLM04.2 SOW.

Initial Calibration Standard Analyses:
Analyses of the initial calibration standards performed on 11/01/00 yielded RRF values for trichloroethene, 1,3-dichlorobenzene and 1,4-dichlorobenzene which fell below the control limit. Up to two volatile compounds may fail to meet the minimum RRF or maximum %RSD requirements as long as these compounds have an RRF greater than or equal to 0.010 and the %RSD is less than or equal to 40.0%. These criteria were met for two of the compounds.

Analyses of the initial calibration standards performed on 08/23/00 yielded RRF values for benzene which fell below the control limit. Up to two volatile compounds may fail to meet the minimum RRF or maximum %RSD requirements as long as these compounds have an RRF greater than or equal to 0.010 and the %RSD is less than or equal to 40.0%. Since these criteria were met, the calibration is compliant and no corrective action was taken.

Continuing Calibration Analyses:
Analysis of the continuing calibration standard performed on 11/09/00 yielded minimum RRF values for 1,3-dichlorobenzene and 1,2,4-trichlorobenzene which fell below the control limit. Analysis of the continuing calibration standard performed on 11/16/00 yielded a minimum RRF value for benzene which fell below the control limit and a %D for bromofluorobenzene which exceeded the control limit. Up to two volatile compounds may fail to meet the minimum RRF or maximum percent difference criterion as long as these compounds have an RRF greater than or equal to 0.01 and a maximum %D of 40.0 percent. Since these criteria were met, the standard is compliant and no corrective action was taken.

Method Blank Analyses:
Analysis of the method blank performed on 11/09/00 resulted in the detection of methylene chloride above the detection limit but below the CRQL. Analysis of the method blank performed on 11/16/00 resulted in the detection of 1,2,4-trichlorobenzene above the detection limit but below the CRQL. Since these analytes were not detected above the CRQL, these blanks are compliant with the method criteria. All sample results reported for these analytes have been "B" flagged to denote their presence in the associated method blank analyses.

Sample Preservation:
The pH of all samples was measured subsequent to analysis in order to determine if they were preserved adequately. The pH values of all samples are tabulated below.

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Client ID	***pH Value***
C03S1	2
C03S2	2
C03S3	2
C03S4	2
C03S5	2
C03S6	2
C03S7	2

Tentatively Identified Compounds (TICs):
In accordance with the OLM04.2 SOW, 30 non-target organic compounds of greatest apparent concentrations are reported as TICs. Alkanes were library searched in addition to the 30 TICs. Alkane TICs were not detected in these samples.

Semi-Volatile Fraction:

Sample Analyses:
All samples in this SDG were extracted and analyzed in accordance with EPA CLP OLM04.2 SOW.

Tentatively Identified Compounds (TICs):
In accordance with the OLM04.2 SOW, 30 non-target organic compounds of greatest apparent concentrations are reported as TICs. Alkanes were library searched in addition to the 30 TICs. Alkane TICs were not detected in these samples.

MS/MSD Analyses:
The samples were extracted on the last day of holding time (on 11/13/00) just prior to receiving instructions from DynCorp to perform MS/MSD analyses which had not been requested on the COC. DynCorp was instructed that samples were extracted in hold and MS/MSD could not be performed within the holding time.

Pesticide/PCB Fraction:

MS/MSD Analyses:
The samples were extracted on the last day of holding time (on 11/13/00) just prior to receiving instructions from DynCorp to perform MS/MSD which had not been requested on the COC. DynCorp was instructed that samples were extracted in hold and MS/MSD could not be performed within the holding time.

There were no anomalies associated with these data.

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ABBREVIATIONS

Several abbreviations can appear in our reports. The most commonly employed abbreviations are as follows:

U The analyte of interest was not detected to the limit of detection indicated.

SDL Sample Detection Limit. The SDL can vary from sample to sample, depending on sample size, matrix interferences, moisture content and other sample-specific conditions.

PQL Practical Quantitation Limit. The limit is drawn from the test method and usually represents the SDL multiplied by a matrix-specific factor.

DB Dry Basis. The value reported has been back-calculated to normalize for the moisture content of the sample.

AR As-Received. The value has not been normalized for moisture.

ORGANIC ANALYSES:

B When used in relation to organics fractions, the "B"flag indicates that the analyte of interest was detected in the method blank associated with the sample, as well as in the sample itself. The "B" flag is applied without regard to the relative concentrations detected in the blank and sample.

J The analyte of interest was detected below the routine reporting limit. This value should be regarded as an estimate.

T The flagged values represent the SUM of two co-eluting compounds. The SUM of these two values is shown as though it were a result for each of them. The two figures should not be added together.

E The flagged value was reported from an analysis that exceeded the linear range of the instrument. See additional comments for further discussion of the circumstances. Values so flagged should be considered estimates.

D The value reported derives from analysis of a diluted sample of the sample extract.

P When a dual column GC technique is employed, this flag indicates that test results from the two columns differ by more than 25%. Generally, we report the higher value.

C The flagged analyte has been confirmed by GC/MS analysis. The value reported may be derived from either the initial of confirmatory (GC/MS) analysis. See specific report comments for details.

CRQL Client requested Quantitation Limit; usually the limit of detection specified at your request. Might also be referred to as Contract Required Quantitation Limit.

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RELEASE OF DATA

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or her designee, as verified by the following signature."

Respectfully submitted,

"non responsive based on revised scope:	"non responsive based on revised scope:
Project Manager	Technical Director
1 Dec 2000 (DATE)	1 Dec 2000 (DATE)

HOW TO CONTACT US:

All Laucks Testing Laboratories staff members can be reached at the same telephone and facsimile numbers: (206) 767-5060 by phone, (206) 767-5063 by FAX.

REQUESTS FOR DUPLICATE COPIES:

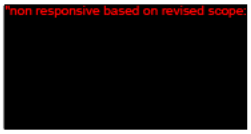
This packet has been checked for accuracy. All pages are present and in sequential order. Please see Attachment B for a detailed record.

In the event that duplicate data copies are needed, Laucks will accommodate your request at a fee of twenty-five cents ($0.25) per copy, plus shipping. If the data are in storage, there will also be a fee for retrieval.

ORIGINAL (Red)

From: "non responsive based on revised scope:
To: "Betty Ann Jeffery (E-mail)" <jeffery.betty@epamai...
Date: 11/9/00 1:24pm
Subject: Region 3 / Case 28712 / LAUCKS / sample C03S4

11/09/2000 3:40 PM - Josie Smith, LAUCKS, reported that the lab received sample C03S4 for Case 28712 with 1 of 2 gallon jugs of sample broken. The lab still has enough sample volume to perform the requested analysis. Please advise. Thanks a lot.



CC: "non responsive based on revised scope:

ORIGINAL (Red)

From: "non responsive based on revised scope:
To: "Betty Ann Jeffery (E-mail)" <jeffery.betty@epamai...
Date: 11/10/00 10:43am
Subject: Region 3 / Case 28712 / LAUCKS / lab QC issue

11/10/2000 12:10 PM - [redacted] LAUCKS, reported by voice mail that for Case 28712, samples received on 11/08/2000, no MS/MSD was indicated on the TR/COC. The lab was scheduled for 8 water samples for full organic analysis. Sample C03S1 arrived with extra volume. Please advise. Thanks a lot.

[redacted]

CC: "non responsive based on revised scope:

[redacted]

ORIGINAL (Red)

From: "non responsive based on revised scope:
To: ...
Date: 11/13/00 6:06am
Subject: Region 3 / Case 28712 / LAUCKS / lab QC issue - FINAL

"non responsive based on revised scope:

Per Region 3, LAUCKS can select sample C03S1 for lab QC since the sample arrived with extra volume. Please document the issue in the case narrative. Thanks a lot.

Wes Markham

-----Original Message-----
From: Slizys.Dan@epamail.epa.gov [mailto:Slizys.Dan@epamail.epa.gov]
Sent: Monday, November 13, 2000 7:40 AM
To: "non responsive based on revised scope:
Subject: Re: Region 3 / Case 28712 / LAUCKS / lab QC issue

"non responsive based

The lab can use sample C03S1 for QC and document issue in case narrative.

"non responsive based on revised scope:

|--------+------------------------------>
| | "non responsive based on revised scope:
| | |
| | 11/10/2000 01:43 PM |
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|
| To: Betty Jeffery/ESC/R3/USEPA/US@EPA, Dan
|
| Slizys/ESC/R3/USEPA/US@EPA, Khin-Cho Thaung/ESC/R3/USEPA/US@EPA
|
| cc: "non responsive based on revised scope:
|
| Subject: Region 3 / Case 28712 / LAUCKS / lab QC issue
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